

Remarks

Claims 3, 8, 9, 15 and 19 are amended herein, and new claims 20-22 are added. Upon entry of this amendment, claims 1-22 will be pending. A check in payment of the fee for claims in excess of 20 is submitted herewith. The Commissioner is authorized to charge any deficiencies in payment to Deposit Account No. 19-1345. Applicants thank the Examiner for notice that claims 3-14 and 15-19 would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112, second paragraph.

Response to Drawing Objection

The drawings were objected to in the Office action on the basis that reference numeral 48 was said not to be shown. However, reference numeral 48 is shown in the lower right hand part of Fig. 3 of the drawings. Accordingly, applicants request that the objection be withdrawn.

Response to Claim Rejections under 35 USC § 112

Claims 3, 8, 9, 15 and 19 have been amended to change several terms, as suggested by the Examiner in the Office action. The scopes of these claims are unchanged. More specifically, the phrase "between them" has been deleted from claim 3. Claims 8 and 19 have been amended to delete the comma after the word "two". Claim 9 has been amended to change "fixture" (in line 7 of the claim as filed) to "second fixture". Finally, claim 15 has been amended to clarify that the original claim meant that it is the fixture that is sized and shaped for receiving the shell of the teat cup assembly.

Claim 17 has not been amended. There is clear antecedent basis for the phrase "the shoes" in claim 17. Claim 16, from which claim 17 depends, recites a pair of shoes. It is unambiguous that it is these "shoes" that are being referenced in

claim 17. Accordingly, withdrawal of the rejection of claim 17 is respectfully requested.

Response to Rejection under 35 U.S.C. §102

Claim 1 is directed to apparatus for manipulating a teat cup assembly used for milking a domestic animal. The teat cup assembly includes a shell and a resilient liner adapted to receive the animal's teat. The liner is capable of extending through the shell while being retained by the shell. More particularly, the apparatus comprises:

(a) a fixture sized and shaped for receiving and holding the shell having the liner retained therein, and

(b) a puller **disposed relative to the fixture to grip and pull the liner** and move the liner and shell relative to each other to stretch the liner.

Claim 1 is submitted as unanticipated by and patentable over Johannesson, U.S. Patent No. 6,357,387 and the other references of record in that none of them show or suggest an apparatus for manipulating a teat cup assembly in which a puller is disposed to both grip and pull the liner of the teat cup assembly to move it relative to the shell of the teat cup assembly. The claimed structure provides a new and useful structure for assembling and disassembling the liner from the shell. In the absence of a puller that grips the liner, there can be no movement of the liner which is sufficient for assembling and disassembling the liner and shell.

Johannesson is directed to a device which supplies a teatcup to a cow and retrieves a teatcup from the cow. The device has no function or capability of functioning to assemble a liner with a shell of the teatcup or to remove a liner from the shell, and accordingly fails to include all of the required structure of the claimed invention. The operation of the Johannesson milking

apparatus, which appears to be central to the rejection of claim 1, appears entirely conventional. Applicants described the construction and operation of a milking machine (particularly as to the function of the pulsator) in the Background of the Invention (p. 1, ¶2). The liner and shell, as assembled, are sealed at the ends of the shell so that an internal annular chamber is formed between the liner and shell inside the shell. It is this annular chamber that communicates with the pulsator. The pulsator alternately applies a vacuum to the annular chamber, causing the liner to expand radially, and vents the annular chamber, allowing the liner to relax. When the liner relaxes, the elasticity of the liner causes it to squeeze the cow's teat for expressing milk. Although not explicitly described, presumably the pulsator of Johannesson works in this conventional manner.

Johannesson's pulsator is not disposed to both grip and pull the liner. Indeed the Office action maintains only that the pulsator pulls and pushes the liner and is silent as to any construction or disposition of the pulsator for gripping as is required by claim 1. Johannesson clearly fails to show gripping by the pulsator. The application of a vacuum to the annular chamber within the shell does not "grip" the liner in any sense of the word that would be understood by one of ordinary skill in the art. The vacuum removes air molecules from the annular chamber so that the pressure of the air inside the liner is sufficiently greater than the air pressure in the chamber to push the liner to expand radially outward. The nature of the interaction of the air molecules with the liner is unchanged whether the vacuum is applied or the chamber is vented to atmosphere. In both situations, the air molecules (whether located inside the liner or outside in the annular chamber) push against the liner. It is only that when enough air molecules are removed from the annular chamber around the liner, the pressure

differential created allows the air molecules inside the liner to push the liner outward, causing it to expand. Thus pulsator neither seizes nor holds the liner. Accordingly, Johannesson fails to show or suggest a puller that is disposed to "grip" the liner.

It is also submitted that Johannesson's pulsator is not disposed to "pull" the liner. The air that causes the movement of the liner relative to the shell always pushes against the liner and never pulls. Expansion of the liner occurs because the air inside the liner pushes it out when the surrounding air in the annular chamber inside the shell is evacuated. Contraction occurs because the air in the vented annular chamber pushes back as hard as the air in the liner pushing out so that the elasticity of the liner causes it to contract. Neither situation is accurately described as "a puller" pulling the liner.

Accordingly, claim 1 is novel and patentable over Johannesson. Claims 2-22, depending directly or indirectly from claim 1 are submitted as patentable for the same reasons as claim 1. New claims 20-22 are submitted as patentable over Johannesson and the other art of record for additional reasons.

New claim 20 further specifies that the puller "is disposed relative to the fixture so that the puller grips the liner at a location outside of the shell". Whatever movement of the liner is caused by the pulsator of Johannesson, it occurs exclusively within the shell, not at a location outside of the shell. Because Johannesson's pulsator does not grip the liner outside the shell, it could never pull the liner in such a way as to cause it to be assembled with or disassembled from the shell.

New claim 21 requires that "the puller is adapted to elongate the liner". Stretching the liner along its length facilitates installing the liner in the shell, as well as removing it from the shell. Johannesson's pulsator causes the

liner to expand and contract radially. There is never any elongation of the liner.

New claim 22 further states that "the puller is adapted for at least one of: installing the liner in the shell and uninstalling the liner from the shell". Thus, claim 22 more explicitly defines the type of manipulation of the liner and requires that the puller be constructed and arranged so that it can do at least one of installing the liner in the shell and uninstalling the liner from the shell. The pulsator of Johannesson is not adapted for installing or uninstalling the liner. The sole purpose of the pulsator is to cause expansion and contraction of the liner so that milking will occur. The liner remains installed in the shell during operation of the pulsator.

Conclusion

In view of the foregoing, reconsideration and allowance of claims 1-19 is respectfully requested. Consideration and allowance of new claims 20-22 is also requested.

Respectfully submitted,



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